GHRC DATA PROCESSES

Lifecycle, Levels of Service, Maturity Model

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Presented at the GHRC User Working Group Meeting
October 7, 2015

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GHRC Dataset Lifecycle

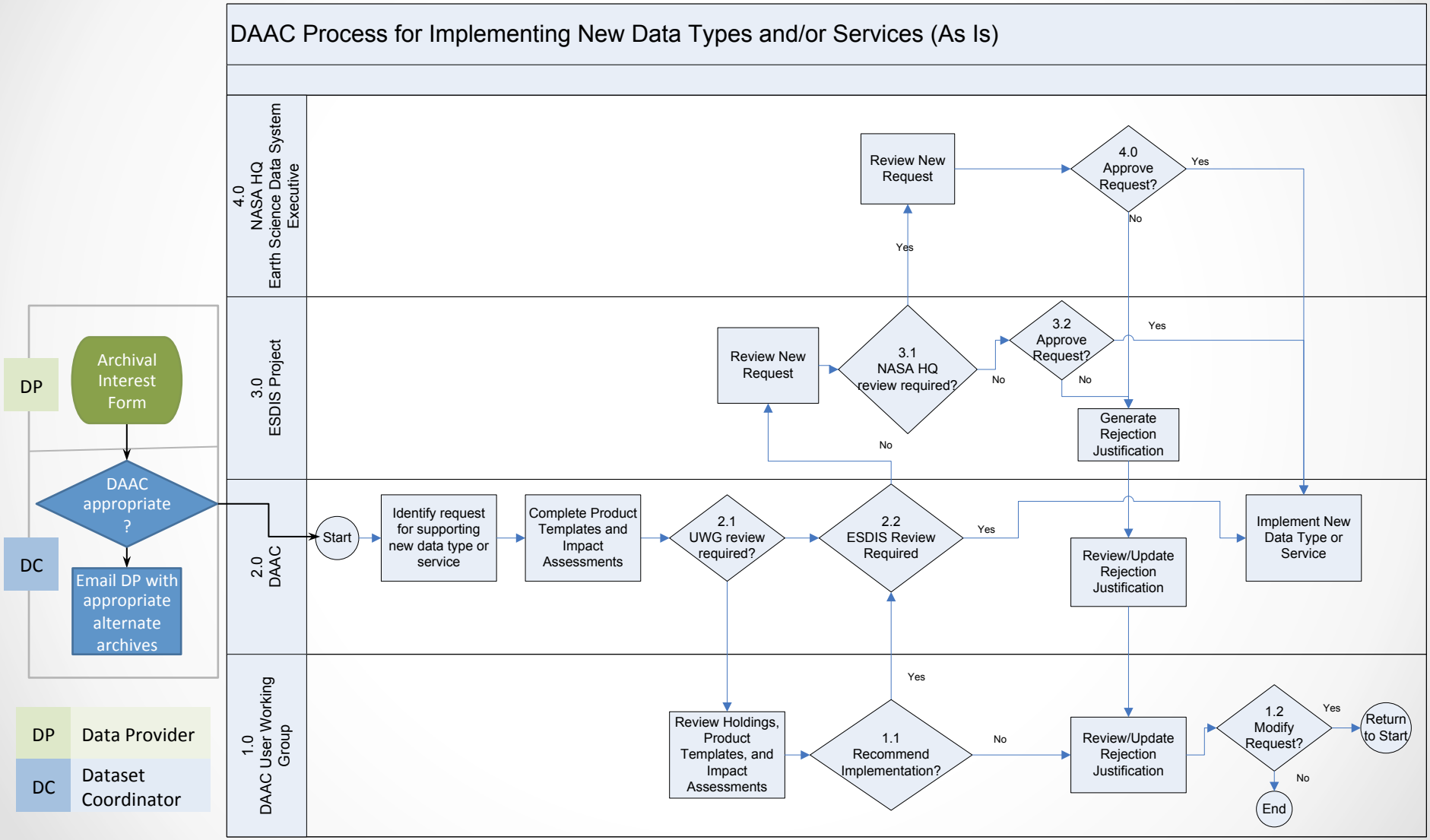
Formalized GHRC dataset management processes in **Lifecycle** and **Levels of Service** documents

- Reviewed lifecycle documents from NOAA and multiple DAACs (NSIDC, PO.DAAC, LP DAAC)
- Reviewed GHRC practices and procedures
- Assessed GHRC on Peng's stewardship maturity matrix for digital environmental data

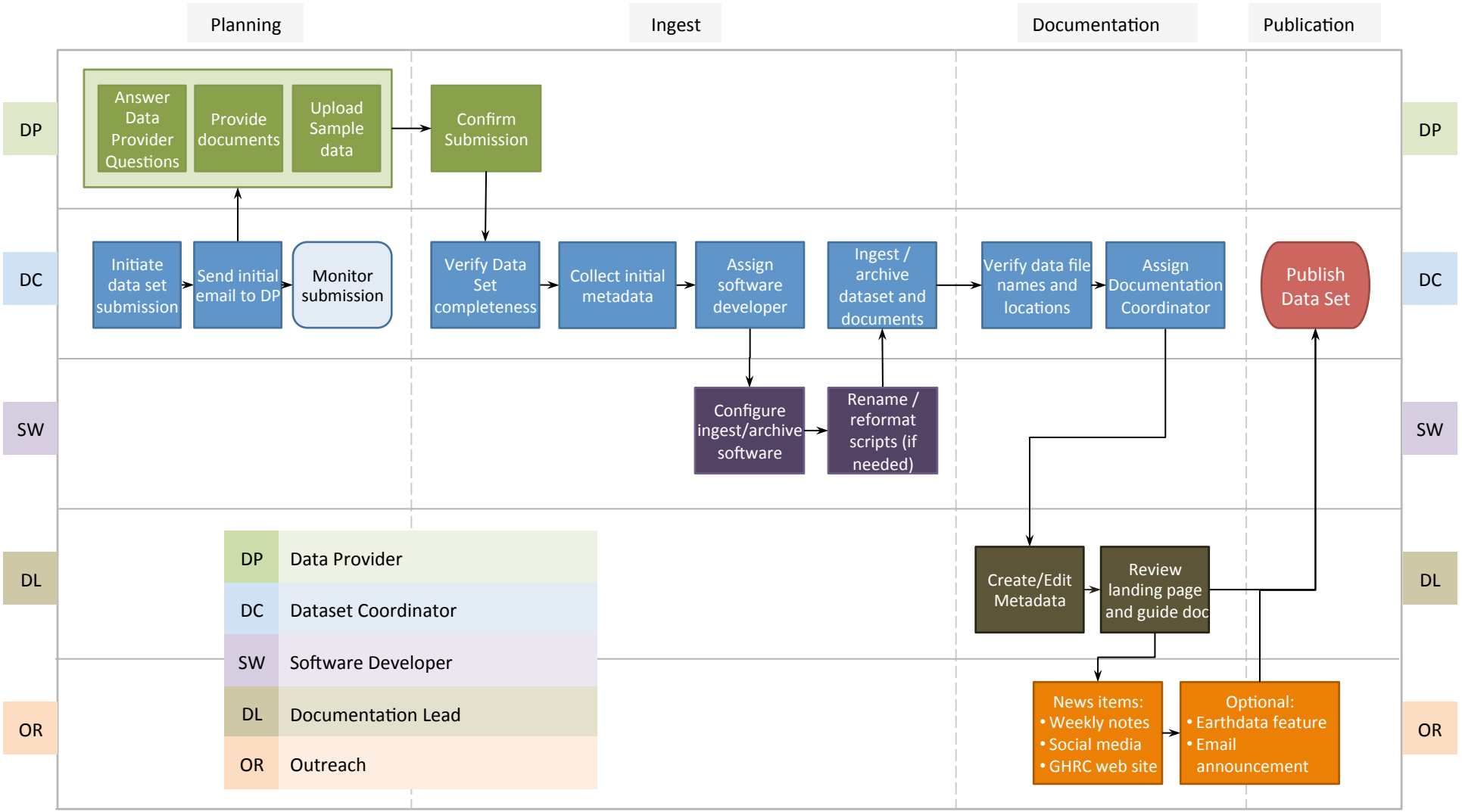
https://ghrc.nsstc.nasa.gov/home/ghrc-docs/data-management

Peng, G., Privette, J. L., Kearns, E. J., Ritchey, N. A., & Ansari, S.. (2015). A Unified Framework for Measuring Stewardship Practices Applied to Digital Environmental Datasets. *Data Science Journal, 13*(0), 231–253. DOI: http://doi.org/10.2481/dsj.14-049

New Dataset Evaluation

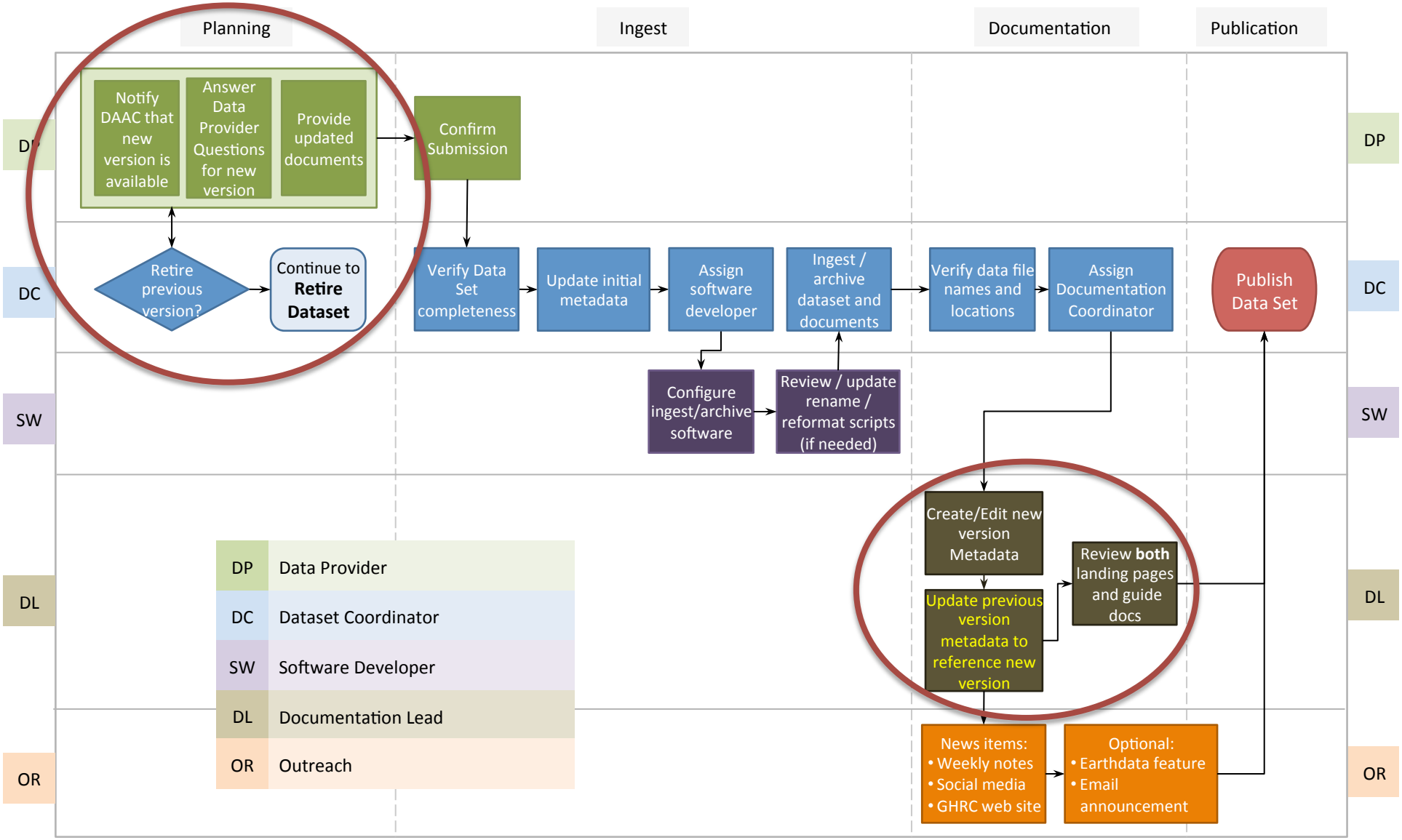


Dataset Ingest Process

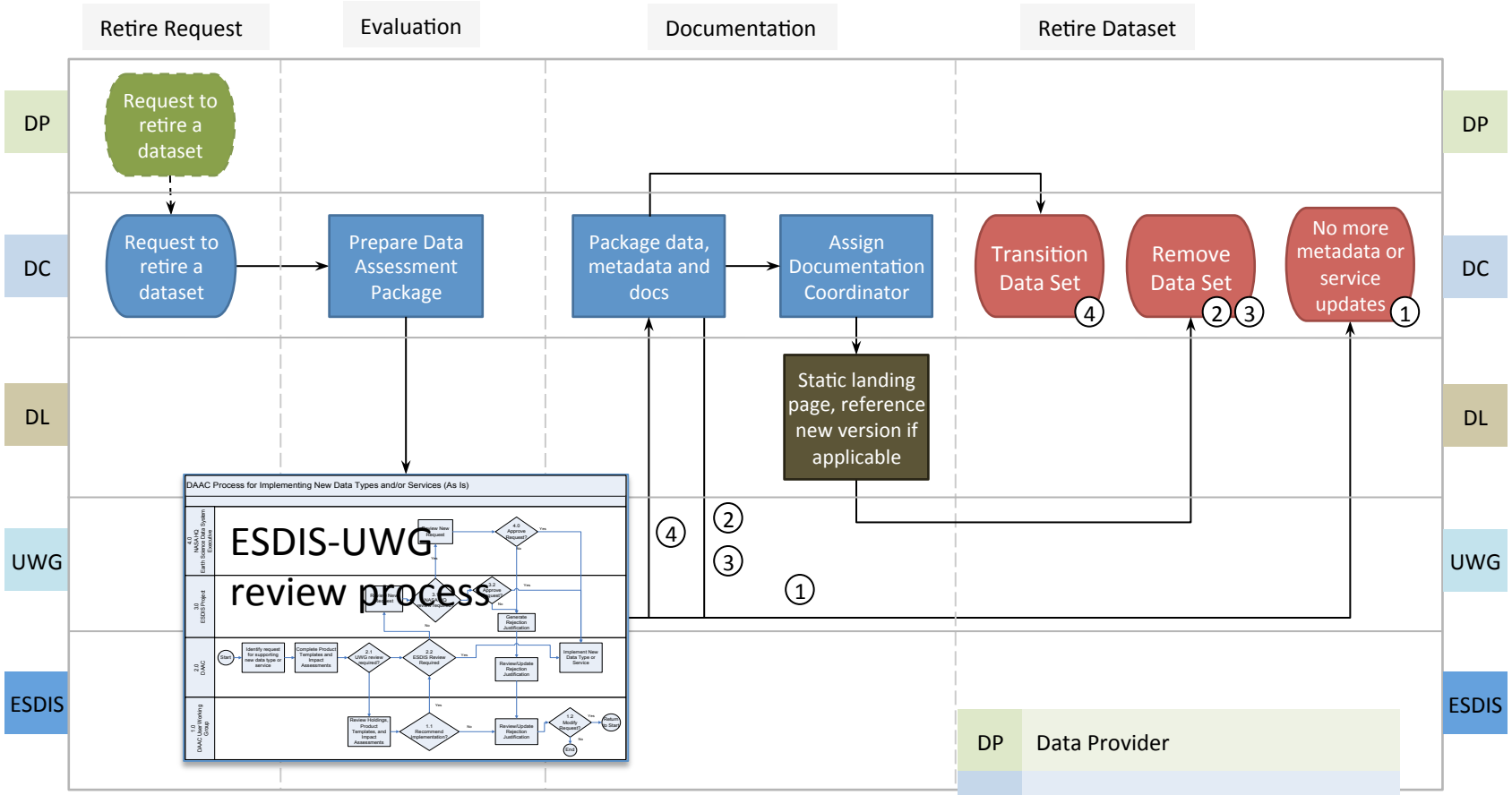


Thanks to ORNL DAAC to swimlanes graphic

New Dataset Versions



Retire a Dataset



DP	Data Provider
DC	Dataset Coordinator
DL	Documentation Lead
UWG	User Working Group
ESDIS	NASA ESDIS Project

Options to retire a dataset:

① Leave data available online with low level of service
② Remove data from online server and public catalog, keep on archive
③ Remove from online server, catalog and archive
④ Transition to long term archive

Levels of Service

CATEGORIES OF DATA SERVICES				
Off-site Backup	**Data Ingest**	**Post-Ingest Processing**	**Metadata and Documentation**	**Distribution Services**
Cloud, other DAAC	Automated, ongoing	Product generation	Guide document	Exploration, analytics
Tape copy	Periodic ingest	Reformat	README	Visualization
PI institution	Bulk download	Rename	DOI and citation	Access services
	PI upload	None	Catalog	FTP/HTTPS

Data collections at the GHRC DAAC may be handled with different levels of service (LoS).

- For some aspects of data services, such as ingest method, LoS corresponds to characteristics of the data.
- For other aspects of data services, LoS will depend on overall data handling priority assigned to the general categories of GHRC data holdings

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Dataset Priorities

Priority	GHRC DATA CATEGORIES
SATELLITE MISSIONS	
1	NASA satellite datasets (OTD, TRMM LIS, ISS LIS, AMSU)
1	Airborne validation datasets (LIP, multiple campaigns)
2	Ground validation datasets – open access (LMA)
3	Other satellite datasets (DMSP OLS, NOAA MSU)
5	Ground validation datasets – commercial, restricted access (Vaisala/NLDN, WWLLN, ENGLN)
MEaSUREs PROGRAM	
1	DISCOVER (RSS)
FIELD CAMPAIGNS and EARTH VENTURES (Hurricane Science or GPM-GV)	
1	NASA research instruments (airborne or ground, NASA-sponsored PI)
2	Affiliated research instruments (e.g., from partner university)
3	Other agency research instruments (e.g., sponsored by NOAA, DOE)
4	Ancillary research data (e.g., PERSIANN, TRMM flood maps)
5	Other agency operational data (e.g., GOES imagery, NWS radar)
NASA APPLICATIONS Research Results	
1	Applications products (e.g., SANDS analysis products)
3	Selected input products (e.g., MODIS subsets for selected storms)

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Data Maturity Model

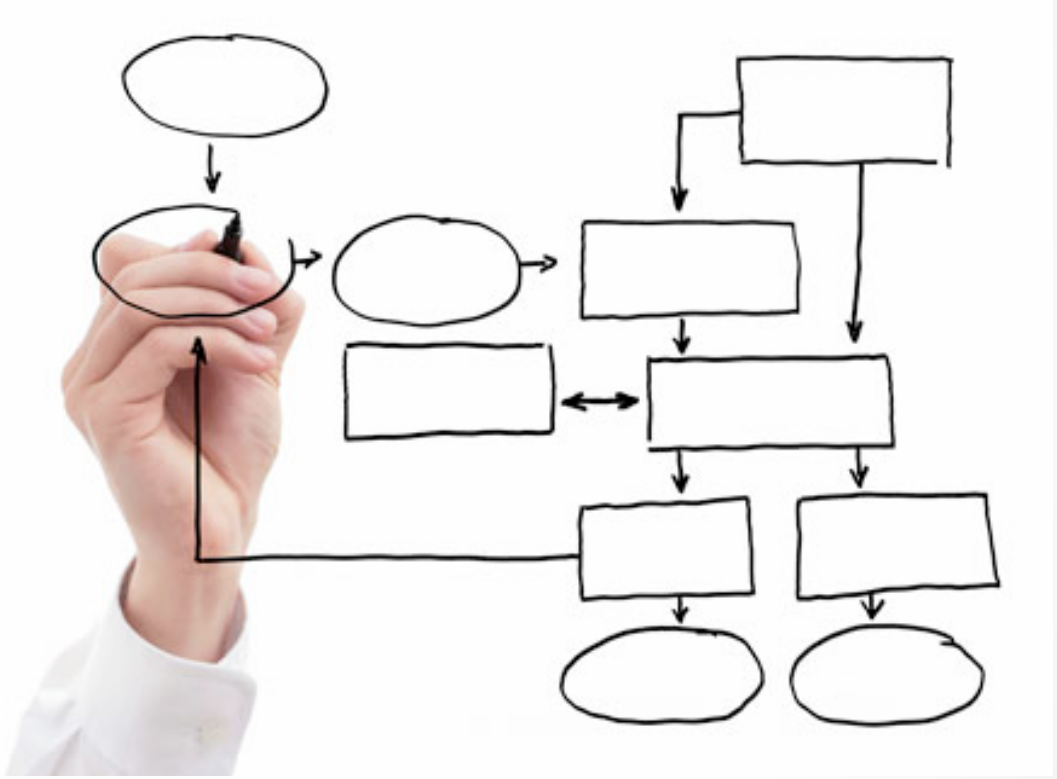
Recommendation 10: Develop a data maturity model for GHRC data. Provide this on website and include maturity information for each dataset provided. Review NOAA's data maturity model as a starting point.

- Also looked at NASA's data maturity levels
  - Beta – gain familiarity with data parameters and formats
  - Provisional – initial data exploration and process studies
  - Validated Stage 1 – selected independent measurements
  - Validated Stage 2 – peer reviewed literature
  - Validated Stage 3 – quantified uncertainty
  - Validated Stage 4 – systematic validation updates

NOAA: http://www1.ncdc.noaa.gov/pub/data/sds/maturity-table-6level.pdf
NASA: http://science.nasa.gov/earth-science/earth-science-data/data-maturity-levels/

THANK YOU
for your attention

Questions?



Please contact **GHRC User Services** for any help or questions
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